

***RED OAK LANDFILL***  
**(Red Oak, Iowa)**

**GENERAL DESCRIPTION**

The site was owned and operated by the city of Red Oak as a landfill from 1962 to 1974. It includes about 40 acres generally described as the NW 1/4 of the SW 1/4 of Section 17, T72N, R38W, Montgomery County, Iowa. The owners of record are Mr. and Mrs. Lowell Kinnison. The site is located near the East Nishnabotna River, about 1.5 miles northwest of Red Oak, Iowa. The site was operated as a limestone quarry from 1947 to 1953-54 and was subsequently purchased by the city of Red Oak for use as a landfill. It was entered on the State Registry in December 1986 and the EPA placed it on the National Priorities List (NPL) in March 1989.

**SITE CLASSIFICATION**

In 2001 the site was reclassified as “d” Site Properly Closed Requires Continued Management.

**TYPE AND QUANTITY OF HAZADROUS WASTE**

About 20 to 30 loads of refuse were brought to the site daily while it was being operated by the city. This included municipal refuse and waste from several industries. Union Carbide-Battery Production Division, Uniroyal Hose Company, and Art Calender Company are considered the major contributors of industrial waste at the site. Wastes containing lead, mercury, tetrachloroethylene (PCE), toluene, diacetone alcohol, and methyl isobutyl ketone (MIK) were disposed at this site. Union Carbide disposed at least 1,144 drums of solvents at the site. The solvents included toluene, MIK, PCE, mineral spirits, and diacetone alcohol. Their disposal also included laminated paper with high mercury levels. Uniroyal disposed of filter paper material with high lead levels. Art Calender Company disposed of ink wastes.

**SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCENRS**

During the RI, elevated levels of volatile organic compounds (VOCs) were detected in subsurface soil and seeps in the southeast corner of the landfill near the river. Samples were collected from two seeps along the bank of the river. About 80 residences and 10 small businesses get their drinking water from shallow wells within three miles of the site. The closest residential well (1,800 feet south of the landfill) has been sampled. No organic contaminants were detected and metal concentrations were not considered abnormally high.

**STATUS OF ASSESSMENT, MONITORING OR REMEDICAL ACTIONS**

The EPA is the lead agency and conducted the initial site investigation in 1983. The site was on the NPL in April 1985. In August 1987 the EPA conducted a site reconnaissance and completed a Remedial Investigation (RI) and Feasibility Study (FS) Work Plan. In December 1989 the EPA and the responsible parties signed a Consent Order for an RI/FS, the RI was conducted with a Phase I part in 1990 and a Phase II part in 1991. The Remedial Investigation (RI) was completed in May 1991. A slope stability study was completed in 1992 and the Feasibility Study (FS) was completed in August 1992.

The EPA completed the Record of Decision (ROD) for the site in March 1993. The selected remedial alternative included the following:

- Installation of a sanitary landfill cap in accordance with the state's solid waste regulations.
- Contouring and revegetation to stabilize the river bank slope.
- Construction of a perimeter fence and placement of deed restrictions to prevent inappropriate uses of the site.
- Implementation of a groundwater monitoring program.

In early 1996, the EPA issued an Explanation of Significant Differences (ESD) for a cleanup action. These changes included a reduction in the area and the depth of soil materials required for the landfill cap. The ESD also limited riverbank control measures to vegetation and shaping to prevent erosion at the top of the landfill. The EPA entered a consent decree with the PRPs to perform the Remedial Design/ Remedial action for the site. The remedial measures were commenced in August 1997 and completed in November 1997. The city of Red Oak and an industrial party are responsible for ongoing groundwater monitoring and maintenance of the landfill. The Superfund five-year review conducted in 2007 concluded that the remedy remained protective.

In the summer of 2008 EPA prepared a draft re-use assessment report for the site. Slumping of the riverbank slope resulted from heavy rains in June of 2008. EPA and the responsible parties are evaluating methods to address the riverbank slumping.

**RSV ENGINEERING, INC.**  
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NO.	DATE	DESCRIPTION
1	11/17/85	PRELIMINARY PLAN
2	11/17/85	REVISED PLAN
3	11/17/85	REVISED PLAN
4	11/17/85	REVISED PLAN
5	11/17/85	REVISED PLAN

**RED OAK LANDFILL SITE**  
 REMEDIAL ACTION  
 RED OAK, OHIO

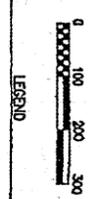
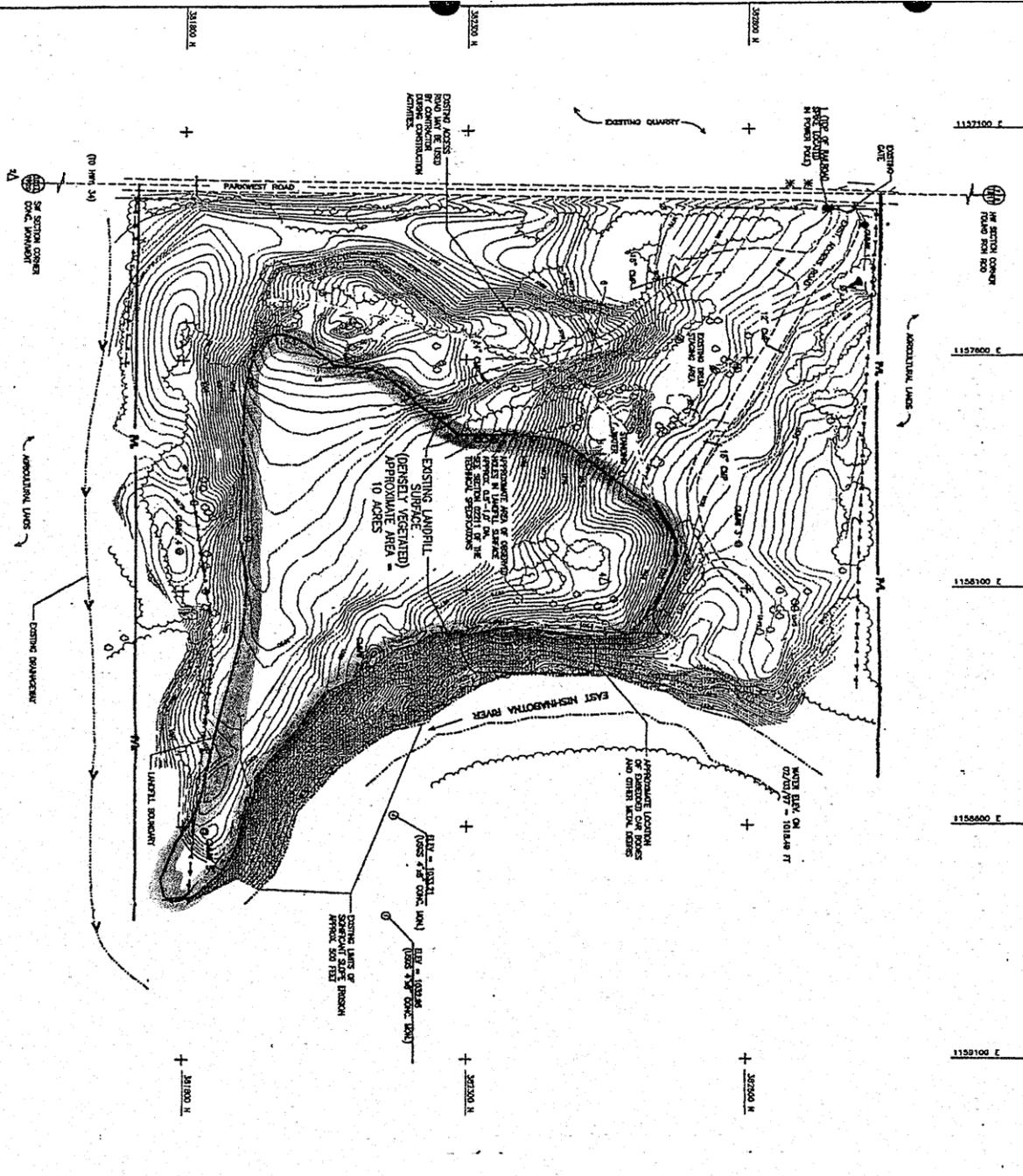
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**SITE PLAN**  
 EXISTING CONDITIONS

SHEET NO. 1

DATE: 11/17/85



**LEGEND**

- EXISTING CONTOUR
- - - EXISTING STRUCTURES
- EXISTING STRUCTURE
- EXISTING POWER POLE
- EXISTING LAMPED ROAD
- DOCK OF WATER
- LANDFILL BOUNDARY
- VERTICAL CONTROL POINT
- △ HORIZONTAL CONTROL POINT
- GROUNDWATER MONITORING WELL
- PROPERTY LINE (APPROX.)

**GROUNDWATER MONITORING WELL LOCATIONS**

WELL NO.	NORTHING	EASTING	ELEVATION
WELL 1	31800	1157314	1004.48
WELL 2	31810	1157262	1000.26
WELL 3	31815	1157178	1000.26
WELL 4	31815	1156977	1007.26
WELL 5	31815	1156910	1007.26

**SECRET CONTROL POINTS**

NO.	NORTHING	EASTING
1	31824.6	1157245
2	31814.6	1157178
3	31814.6	1156977
4	31824.6	1156977
5	31824.6	1156910

NOTES:  
 1. ALL DIMENSIONS AND DISTANCES ARE BASED ON THE STATE PLANE COORDINATE SYSTEM.  
 2. POINT BOUNDARY OF GROUNDWATER MONITORING WELL.